

**D. REMARKS/ARGUMENTS****1. Status of the Claims**

Claims 1-23 are currently pending in the application. Claims 1, 12, and 18 are independent. Claims 2-11 depend on claim 1. Claims 13-17 depend on claim 12. Claims 19-23 depend on claim 18.

**2. Priority**

Applicant confirms that the amendment submitted on 05/18/04 should not be considered, and that the Applicant correctly addressed priority in the amendment received 05/10/04.

**3. Objection to the Specification**

The Examiner stated: "The disclosure is objected to because of the following informalities: a) at page 2, paragraph [0011], line 2 "include about 500,000" should be changed to --includes about 500,000--in order to be grammatically correct. Appropriate correction is required."

In response, Applicant has revised paragraph [0011] of Applicant's specification, to make the paragraph grammatically correct. See section B above.

Applicant submits that the Examiner's objection is now overcome.

**4. Rejection of Claims 18-23 Under 35 U.S.C. § 102(b)**

Claims 18-23 stand rejected under 35 U.S.C. § 102(b) as being unpatentable over U.S. Pat. No. 6,170,220 to Moore ("Moore"). Applicant respectfully traverses these rejections.

**Claim 18**

Independent claim 18 is reproduced below:

A wall comprising:

a set of spaced apart rims, each comprised of a stacked set of separately-extruded layers; and

a filler between the rims comprised of a stacked set of separately-extruded layers.

Applicant submits that, unlike what is recited in Applicant's independent claim 18 above, the Moore document does not teach or suggest any spaced apart rims comprised of a stacked set of separately-extruded layers, nor does the Moore document teach or suggest any filler between the rims. Nothing at all is mentioned in Moore about any extrusion or about any extruded layer, much less about a stacked set of separately extruded layers, or about spaced apart rims that are comprised of a stacked set of separately extruded layers.

In contrast, as described in detail below with supporting citations from the Moore document, Moore teaches side panels, preferably made of polystyrene, onto which concrete is poured. In particular, Moore teaches that opposed side panels may form a cavity therebetween into which concrete may be poured, or that concrete may be poured onto a single side panel. Moore also teaches web members disposed within the side panel.

Moore thus teaches a structure very different from what is claimed by Applicant, with no mention or hint anywhere in Moore of any extrusion, extruded layers, stacked set of separately extruded layers, or spaced apart rims comprised of a stack set of separately-extruded layers.

In particular, Applicant submits that at least the following limitations of independent claim 18 cannot be found in the Moore document:

- a) a set of spaced apart rims, each comprised of a stacked set of separately-extruded layers; and
- b) a filler between the rims comprised of a stacked set of separately-extruded layers.

Limitation a)

Regarding limitation a), the Examiner cites Fig. 2A, #20 of Moore as support for "a set of spaced apart rims," and cites Fig. 1 of Moore as support for "each having a stacked set of separately-extruded layers".

In contrast, however, the descriptions (reproduced below) in Moore pertaining to the cited Figs. 2A #20 and Fig.1 show that neither the cited figures nor the relevant descriptions teach or suggest any set of spaced apart rims each having a set of separately-extruded layers.

In describing Fig. 1 and Fig. 2A #20, Moore states *inter alia* as follows:

A first embodiment of the present invention, shown in FIGS. 1,2 and 2A, comprises at least two opposed **longitudinally-extending side panels 20**, at least one web member 40 partially disposed within each of the side panels 20, and a connector 50 disposed between the side panels 20 for connecting the web members 40 to each other. . . . Each side panel 20 has, a top end 24, a bottom end 26, a first end 28, a second end 30, an exterior surface 32, and an interior surface 34. . . . The **side panels 20 are preferably constructed of polystyrene**, specifically expanded polystyrene ("EPS"), which provides thermal insulation and sufficient strength to hold the poured concrete . . .

Moore document, col. 3, lines 3-8, 16-18, and 41-44.

As seen from the quotations above, Fig. 2A #20 refers to longitudinally-extending side panels, preferably constructed of expanded polystyrene. Nothing in Fig. 1 or in Fig. 2A #20 (or any other portion of Moore) relates to any extruded layers, much less a stacked set of separately-extruded layers, and/or spaced apart rims each comprised of a stacked set of separately extruded layers.

Further, by stating that Fig. 2A #20 refers to a longitudinally-extending side-panel preferably constructed of polystyrene, the Moore document teaches away from limitation a) requiring rims having a set of separately-extruded layers. See e.g. Tec Air, Inc. v. Denso Mfg. Mich. Inc., 192 F.3d 1353, 1360, 52 USPQ2d 1294, 1298 (Fed. Cir. 1999): "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, . . . would be led in a direction divergent from the path that was taken by the applicant." (underline added).

Limitation b)

Regarding limitation b), the Examiner cites Fig. 2A, C of Moore as support for reference to a filler between the rims having a stacked set of separately extruded layers. However, as seen from the descriptions (reproduced below) in Moore of the cited Fig. 2A, C, nowhere in Fig. 2A, C of Moore cited by the Examiner, or in the relevant descriptions, is there any mention of suggestion of any filler between rims comprised of a stacked set of separately-extruded layers.

In describing Fig. 2A, C, Moore states *inter alia* as follows:

As shown in FIG. 2A, concrete C is poured between the side panels 20 so that it bonds with the side panels 20 and the web members 40.

. . . the interior surface 34 of one side panel 20 faces the interior surface 34 of another side panel 20 . . . and the opposed interior surfaces 34 are laterally spaced apart from each other a desired separation distance so that a cavity 38 is formed therebetween. Concrete – in its fluid state – is poured into the cavity 38 and allowed to cure (i.e., harden) therein . . .

As seen from the quotations above, Fig. 2A, C illustrates concrete that is poured between side panels 20, described above, so that the concrete bonds with the side panels. Nothing in Fig. 2A, C (or any other portion of Moore) relates to a filler between rims comprised of a stacked set of separately-extruded layers.

On the contrary, by stating that Fig. 2A, C refers to concrete that is poured between **opposed interior surfaces of two side panels**, the Moore document teaches away from limitation b) which recites a filler between rims comprised of a stacked set of separately-extruded layers.

A document anticipates a claim only if the document discloses all the elements and limitations of the claim. If even one element or limitation of the claim is missing, a § 102 rejection fails. See e.g. Kalman v. Kimberly-Clark, 713 F.2d 760, 771, 218 U.S.P.Q. 781 (Fed. Cir. 1983). Also, anticipation requires the disclosure in a single document of each element of the claim under consideration. In re Dillon, 919 F.2d 688, 16 USPQ2d 1897, 1908 (Fed. Cir. 1990)(en banc), cert denied, 500 U.S. 904 (1991).

Applicant respectfully submits that Moore does not anticipate the invention as recited in independent claim 18, because Moore does not teach or suggest at least limitations a) and b) of claim 18, discussed above. Applicant submits that independent claim 18 is not anticipated by the Moore document, and is allowable. Applicant respectfully requests that the 35 U.S.C. 102(b) rejection of claim 18 be withdrawn.

#### Claims 19-23

Claims 19-23 depend on claim 18, and therefore include all the limitations of claim 18. For all the reasons discussed above, claim 18 is not anticipated by the Moore document under 35 U.S.C. § 102 (b). It follows that claims 19-23 (all depending from claim 18) also are not anticipated by Moore under 35 U.S.C. §102(b).

For all the reasons discussed above, Applicant submits that there is no proper basis for the 35 U.S.C. § 102 (b) rejection of independent claim 18, and of claims 19-23 depending therefrom. Applicant respectfully submits that claims 18-23 are allowable.

#### **5. Rejection of Claims 1-2 and 8-10 Under 35 U.S.C. § 102(b)**

Claims 1-2 and 8-10 stand rejected under 35 U.S.C. § 102(b) as being unpatentable over U.S. Pat. No. 6,103,161 to Lopez ("Lopez"). Applicant respectfully traverses these rejections.

#### Claim 1

Independent claim 1 is reproduced below:

A multi-nozzle assembly comprising:

a first nozzle configured to extrude material through a first outlet;

a second nozzle configured to extrude material through a second outlet; and

a third nozzle configured to extrude material through a third outlet, the third outlet being between the first and second outlets.

Applicant submits that, unlike what is recited in Applicant's independent claim 1 above, the Lopez document does not teach or suggest any of the limitations of independent claim 1 above, i.e. does not teach or suggest any multi-nozzle assembly, nor does Lopez teach or suggest any first, second, or third nozzles configured to extrude material through first, second, and third outlets, nor does Lopez teach that the third outlet is between the first and second outlets.

In contrast, as described in further detail below, the Lopez document teaches the creation of thin sheets, which are pulled by a roller pair at processing time. In Lopez, all three nozzles work concurrently. In particular, the Lopez document teaches a device that employs a plurality of extrusion material conducts in a single extrusion head. See e.g. Abstract of the Lopez document, lines 5, 7-8 ("*... the sheet being formed by ... employing a plurality of extrusion material conducts in one single extrusion head ...*"); ("*... Said extrusion means are represented by ... several storage tanks (2) containing the extrusion material, each of them being respectively connected to one of the corresponding outlet conducts (11). ... it must be clearly understood that **all these conducts are assembled together in a single extrusion head**, as the one shown in FIG. 8, so that ... the supply of extrusion material for the various sheet layers is simultaneous ...*").

The Examiner states: "*Lopez teaches a multi-nozzle assembly having a first nozzle configured to extrude material through a first outlet (Fig 1, left most #11); a second nozzle configured to extrude material through a second outlet (Fig 1, rightmost #11); a third nozzle (Fig 1, any of middle three # 11) configured to extrude material through a third outlet, the third outlet being between the first and second outlets ; ... a material feed system configured to feed material to each nozzle (Fig 1, #2) ...*" (Office Action, page 3).

Contrary to the Examiner's statements reproduced above, however, the device illustrated in Fig. 1 (including items #11 and #2) of Lopez is not a multi-nozzle assembly having first, second, and third nozzles configured to extrude material through their respective outlets, as seen from the description in Lopez of Fig. 1 #11 and #2:

"FIG. 1 schematically shows a device which intends to represent the means of extrusion for forming the sheet according to the procedure of the invention. Said extrusion means are represented by . . . several storage tanks (2) containing the extrusion material, each of them being respectively connected to one of the corresponding outlet conducts (11) for forming the intermediate layer . . . .

Concerning FIG. 1 of the drawings, it should be pointed out that the fact that the conducts associated to the extrusion it must be clearly understood that **all these conducts are assembled together in a single extrusion head**, as the one shown in FIG. 8, so that, as stated above, **the supply of extrusion material for the various sheet layers is simultaneous**, at points separated from one another by a minimal distance.

Lopez Col. 4, lines 50-58; Col. 4, line 66 – Col. 5 line 8.

As seen from the quotations above, FIG. 1 #11 do not represent a *first nozzle configured to extrude material through a first outlet*, nor a *second nozzle configured to extrude material through a second outlet*, nor a *third nozzle configured to extrude material through a third outlet*, the *third outlet being between the first and second outlets*, contrary to the Examiner's statements. Rather, FIG. 1 #11 represent a plurality of conducts, each of which are assembled together in a **single** extrusion head. In other words, the Lopez document describes the material as being extruded through a single extrusion head or nozzle, after passing through a plurality of conducts

Further, as seen from the quotations above, #2 in FIG. 1 of Lopez does not represent "a *material feed system configured to feed material to each nozzle* (Fig 1, #2)," contrary to the Examiner's statement in the Office Action on page 3. Instead of one material feed system that feeds material to each nozzle, #2 in FIG. 1 of Lopez represent "*several storage tanks (2) . . . , each of them being respectively connected to one of the corresponding outlet conducts . . .*" (Lopez Col. 4 lines 56-58).

Nowhere in Lopez is there any teaching or suggestion of a multi-nozzle assembly including first, second, and third nozzles, each configured to extrude material through

respective first, second, and third outlets. Of course, there is also no teaching or suggestion in Lopez that the third outlet be between the first and second outlets.

On the contrary, Lopez teaches away from claim 1, by teaching extrusion of material through a single extrusion head, after the passing of the material through a plurality of conducts.

As mentioned above, a document anticipates a claim only if the document discloses all the elements and limitations of the claim, and each element of the claim under consideration must be disclosed in a single document.

Applicant respectfully submits that, for all of the reasons discussed above, Lopez does not anticipate the invention as recited in independent claim 1. Applicant respectfully requests that the 35 U.S.C. 102(b) rejection of claim 1 be withdrawn.

#### Claims 2, 8-10

Claims 2 and 8-10 depend on claim 1, and therefore include all the limitations of claim 1. For all the reasons discussed above, claim 1 is not anticipated under 35 U.S.C. § 102 (b) by the Lopez document. It follows that claims 2 and 8-10 (all depending from claim 1) also are not anticipated by Lopez under 35 U.S.C. §102(b).

#### **6. Rejection of Claims 1, 3, and 6-11 Under 35 U.S.C. § 102(b)**

Claims 1, 3, and 6-11 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Pat. No.5,059,266 to Yamane ("Yamane"). Applicant respectfully traverses these rejections.

The Examiner states: "*Yamane et al teach a multi-nozzle assembly having a first nozzle configured to extrude material through a first outlet (Fig. 12, #116); a second nozzle configured to extrude material through a second outlet (Fig. 12, #118); a third nozzle (Fig. 12, #117) configured to extrude material through a third outlet, the third outlet being between the first and second outlets. . . .*"



Contrary to the Examiner's statements, Yamane does not teach or suggest a multi-nozzle assembly that includes first, second, and third nozzles configured to extrude material through respective first, second and third outlets. Rather, Fig. 12, #116, #117, and #118 of Yamane illustrate different ink jet heads, which simply spray material in form of droplet, and do not extrude any material.

None of the ink jet heads described in Fig. 12, #116, #117, and #118 are configured to extrude any material. To "extrude" means to form or shape by forcing through an opening. In order for a nozzle to be configured to extrude material through an outlet, therefore, the nozzle should mold and shape the material as the material passes through the length of the nozzle, and should allow the material that is passing through to retain the cross-sectional shape of the nozzle outlet as the material is pushed through the nozzle outlet. The inkjet heads disclosed in Yamane clearly do not extrude material, but simply spray material in form of droplet. In particular, the inkjet heads are used for jetting the three primary colors, printing a matrix of dots to create various colors. None of the inkjets are configured to extrude material through any outlet

For these reasons, Yamane does not teach or suggest at least the following limitations of claim 1: a first nozzle configured to extrude material through a first outlet; a second nozzle configured to extrude material through a second outlet; and a third nozzle configured to extrude material through a third outlet, the third outlet being between the first and second outlets.

As explained above, a document anticipates a claim only if the document discloses all the elements and limitations of the claim.

Applicant respectfully submits that Yamane therefore does not anticipate the invention as recited in independent claim 1. Applicant respectfully requests that the 35 U.S.C. 102(b) rejection of claim 1 be withdrawn.

Claims 3, 6-11

Claims 3 and 6-11 depend on claim 1, and therefore include all the limitations of claim 1. For all the reasons discussed above, claim 1 is not anticipated under 35 U.S.C. § 102 (b) by the Yamane document. It follows that claims 3 and 6-11 (all depending from claim 1) also are not anticipated by Yamane under 35 U.S.C. §102(b).

**7. Rejection of Claims 1-2, 4-5, and 8 Under PCT Article 33(2)**

Claims 1-2, 4-5, and 8 stand rejected under PCT Article 33(2) as being anticipated by King et al (4,055,623)("King"). Applicant respectfully traverses.

Applicant believes that the Examiner meant to reject claims 1-2, 4-5, and 8 under 35 U.S.C. 102(b), not under PCT Article 33(s).

The Examiner states: "*King et al teach a multi-nozzle assembly having a first nozzle configured to extrude material through a first outlet (Fig. 2, #28); a second nozzle configured to extrude material through a second outlet (Fig. 2, #24); a third nozzle (Fig. 2, #26) configured to extrude material through a third outlet, the third outlet being between the first and second outlets. . . .*

Contrary to the Examiner's statements, King does not teach or suggest a multi-nozzle assembly that includes first, second, and third nozzles configured to extrude material through respective first, second and third outlets. King is directed to the creation of sheets, not wall structures. (See e.g. Abstract of King.) In particular, King discloses a container having three outlets or output orifices, more particularly a hopper (i.e. a funnel-shaped container) having three orifices through which concrete can be extruded. No multi-nozzle assembly is disclosed that includes three separate nozzles.

Regarding Fig. 2 (which was referenced by the Examiner), King states:

The apparatus 14 includes an upwardly open hopper 20 for receipt of a substantially fiber-free concrete mix 22. The underside of the hopper 20 is

provided with a plurality of elongate concrete extruding orifices 24, 26, and 28 through which the concrete is extruded . . .

King col. 3, lines 36-40.

As seen above, King teaches a container with three outlet ports. King provides no teaching or suggestion of a multi-nozzle assembly that includes three separate nozzles (first, second, and third nozzles), each configured to extrude material through respective first, second, and third outlets.

As mentioned above, a document anticipates a claim only if the document discloses all the elements and limitations of the claim. Also, the identical invention must be shown in as complete detail as is contained in the claim. MPEP § 2131. Each and every element of the claimed invention, arranged as in the claim, must be present in a single prior art reference

Applicant respectfully submits that, for these reasons, King does not anticipate the invention as recited in independent claim 1. Applicant respectfully requests that the 35 U.S.C. 102(b) rejection of claim 1 be withdrawn.

Claims 2, 4-5, and 8

Claims 2, 4-5, and 8 depend on claim 1, and therefore include all the limitations of claim 1. For all the reasons discussed above, claim 1 is not anticipated under 35 U.S.C. § 102 (b) by the King document. It follows that claims 2, 4-5, and 8 (all depending from claim 1) also are not anticipated by King under 35 U.S.C. §102(b).

**8. Conclusion**

On the basis of the foregoing amendments, Applicant respectfully submits that all of the pending claims 1-23 are in condition for allowance. An early and favorable action is therefore earnestly solicited.

Respectfully submitted,



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